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NATIONAL STANDARDIZATION CODIFICATION OF GECGRAPHIC NAMES FOR UNITED STATES GOVERNMENT NEEDS

Submitted by the Government of the United States of America

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CODIFICATION OF GEOGRAPHIC NAMES FOR UNITED STATES OF AMERICA GOVERNMENT USE

New Needs

The recent upsurge of automatic data processing has posed new needs and compounded problems already in existence. Inconsistent usage of geographic nomenclature and notations, particularly in the identification and location of specific places and areas, seriously handicap communication among government agencies. For example, numerous examples abound in which place names may have multiple meanings, a single place may have more than one name, and different agencies may employ different names to designate the same place. Indeed, name systems structures tend to vary from agency to agency so that numerous terms may either be meaningless in some agencies, or, worse, lead to mistaken place name identity. In the face of rapid advances in the field of computer technology and the reliance on these methods it becomes more urgent than ever to eliminate these place name inconsistencies. In fact, the transfer of an ever-increasing volume of data at greater speeds requires standardization to avoid bottlenecks where geographic location is concerned.

Faced with these problems, and the need to provide data storage banks, the United States Government has embarked on a major project designed to standardize data element for use in international and external systems data interchange. The principal objective is to develop both uniform geographic names and coded notations to be used in data systems. The alternate, or failure to develop such standards, would undoubtedly necessitate invoking costly conversion procedures essential for data interchange between diverse systems.

The Project

In April 1965, the United States Government, through the Bureau of the Budget, created several task groups to deal with various proposals of geographic name standardization in the government. The concern in this paper is primarily with the Country Code Task Group (CCTG) and secondarily, with the co-ordinating work between the CCTG and the States Codes Task Group (SCTG). The first of the groups (Country Code) has to do with foreign areas, the second (States Codes) with the United States. The two groups were created to "support the development and

promulgation of standard data elements and codes in government systems, when such data elements are in common use in some or all executive agencies."

The CCTG is a multi-agency group charged with the responsibility of developing a geographical coding structure and procedural guidelines for the use of that structure in data system planning. In June 1965, the CCTG initiated deliberations on the characteristics of existing data systems for identifying, defining and coding areas outside of the states of the United States.

The States Codes Task Group has been engaged in the development of a standard set of codes for States and political entities within States, such as countries, places and balance of county, and in addition they have been concerned with outlying areas of the United States. The identification of the United States outlying areas was done in collaboration with the CCTG.

In the analysis of the attributes of various data systems now operational, the chief differences encountered were concerned with the following:

(1) Levels of aggregation: ranged from subdivisions of counties and cities through groups of counties aggregated using multiple criteria.

(2) Definitions of foreign areas: inconsistencies occur in the identification of areas, such as including South West Africa as part of the Republic of South Africa; the instance of Réunion (France) and Mauritius (United Kingdom) being grouped together as the Mascarene Islands.

(3) Terminology: multiple names for entities, such as West Germany or Federal Republic of Germany; Great Britain, England, or the United Kingdom; and Aden Protectorate, Aden and the Protectorate of South Arabia, or Aden Colony and Protectorate.

(4) Notations: Panama is identified in the following ways: PN, HPN, 225, 525, 717, HPMOOM, and PN.

Further complicating the problems mentioned above, is the dynamic nature of the pattern of world states and boundaries. Changes in political sovereignty and internal administrative structure have and do occur intermittently; such changes must be monitored continually or any system devised would soon become dated and fall into relative disuse.

To deal with the dynamic nature of the geopolitical sphere, the CCTG determined that not only standard names, definitions and notations are needed, but

also mechanisms to effect necessary changes. In other words, standardization is not simply a one-time adequately defined list of geographic entities with codes to be applied without flexibility to all needs, but a differentiated, dynamic system with built-in maintenance facilities.

The CCTG began with the consideration of the "country" level, henceforth called basic entity; to define these basic entities; and ultimately to relate higher and lower levels of aggregation to them. It was realized that below the level of basic entities, proliferation could be great and the rate of change might be high, while above the basic entity level there might be many needs for many different combinations of aggregations of basic entities. By considering standardization at the basic entity level, aggregations could in the future be defined and standardized by listing the basic entities of which they are comprised.

The Geographer of the Department of State accepted the responsibility for the development of a list of political entity names to cover the world geographically by sovereignties. Included in addition to the basic entity list was a listing of all the major international water bodies, and these two lists provide complete areal coverage of the world. Further, the Geographer supplied listing for geopolitical bloc aggregations, nomenclature of first-order administrative divisions of the basic political entities, and examples of first-order breakdowns for selected basic entities. Finally, the CCTG formulated suggested notation schemes to be used to identify the basic entities and any break-downs within them.

This material, when compiled, was distributed throughout the government for comment. Recommendations for change will be considered before a final decision is reached in the establishment of standardized data elements.

A discussion of the components of the standardization sequences sheds some light on the scope of the project.

Basic Entities

Each basic entity is identified by the official name (short-form), approved Board on Geographic Names (BGN) spellings, current political status and scope notes to describe non-contiguous subdivisions of an entity.

Basically, there are six types of basic entities: (1) Independent States; (2) dependent areas; (3) areas of quasi-independence, non-contiguous territories, possessions without population, areas with special sovereignty associations, and areas without sovereignty; (4) political régimes not recognized by the United States;

(5) outlying areas of the United States, including islands in dispute; and (6) international waterbodies.

Notation Scheme

A tentative notation scheme was prepared for the basic entities and its use was further extended to geopolitical bloc aggregations and subdivisions of the basic entities. The CCTG proposed a two-character mnemonic code to identify the basic entity. Additional characters are used to identify the geopolitical bloc aggregation into which the basic entity falls; and to identify the internal breakdown of the entity.

Alpha characters are used in the proposed 5-column identification field. The data fields are identified as follows:

Column 1 . . . . . geopolitical bloc aggregation
Columns 2 and 3 . . . . . basic entity
Columns 4 and 5 . . . . . internal divisions of the basic entity

Geopolitical Bloc Aggregations

In addition to coding at the basic entity level, most existing notation schemes include means of aggregating basic entities into groupings. In order to fulfil differing needs, systems base their aggregation schemes on various considerations such as geography, politics, economics, military alliances or special purposes. CCTG decided not to attempt the development of all the aggregative sets which might be required, nor to propose restricting data exchange standards to only one such set of aggregations. However, in view of the need for a standard geographic aggregation of political entities, one such aggregation was compiled.

The Geographer developed a list of areal aggregations to be used in the standard grouping of the major political or basic entities. These were based on a criteria of continentality which resulted in the establishment of seventeen geopolitical bloc aggregations. Trigraph notations were assigned to the aggregations.

Two guidelines formulated for the use of aggregations are:

(1) New aggregations should not be established for an acceptable Federal standard that already exists.

(2) Aggregations should not split any basic entity: in other words, a basic entity should appear in one and only one aggregation within any set of aggregations.

These guidelines would facilitate translation of one aggregation into another for future exchange purposes, since two dissimilar aggregations could always be related to each other unambiguously by listing the basic entities belonging to each.

Divisions of Basic Entities

The CCTG also considered the need for standard terminology, definitions and notations for geographic and administrative divisions of basic entities. It was noted that most basic entities can be defined unambiguously in terms of their first-order administrative divisions. However, both terminology and definitions are extremely varied from entity to entity. For example, a canton is first order in Switzerland, second in Luxembourg, and third in France; the bezirk is first order in the Soviet Zone of Germany and second in Austria. Additionally, the term republic can be part of the formal designation of an entity, as well as a first-order division of an entity. For example, the Republic of Botswana and the fifteen union republics of the Soviet Union.

The Geographer has compiled a list of all the first-order administrative divisions of the basic entities. Where administrative divisions are absent, other geographic or political divisions were substituted: for example, island groups or electoral districts.

Maintenance of CCTG Files

The dynamic nature of changes in political sovereignty and internal administrative structures make it imperative that the system be closely monitored by an Executive Agent. To keep the CCTG codification schemes current, it is proposed that a small formal or ad hoc committee be established to assist the Agent in implementing code changes or in discussing other operational procedures in the code structure. The activities of the Agent in collaboration with an appointed committee would be directed to monitoring the development and continued use of the system including:

(1) Maintenance of an alphabetical file, by entity, noting chronologically when and what changes occur to alter the code notation scheme.

(2) Codifying the internal administrative divisions of entities as user requirements arise.

(3) Distribution of information to the users concerning changes in the basic notation scheme through the use of some type of standard format reporting.

Perspective

It is hoped that the developed standards will be employed in data systems within 1 1/2 to 2 years. Agencies will be urged to convert existing systems as soon as practical. Where data systems are in the formative stage, such users will be encouraged to employ the standards now being developed.
